Standard Lighting is "Everything for Everybody"

Office spaces typically rely on a uniform layout of ceiling mounted luminaires to evenly illuminate the space—lighting "everything for everyone" since user requirements may change over time.

Such lighting systems, illuminated to the highest levels that the lighting designer feels will be needed, are inefficient and inflexible.

The Portable Office Luminaire provides both ambient and task lighting and reduces lighting energy costs by 30–50 percent compared to conventional office applications.

Combined with low-level ambient lighting, the Portable Office Luminaire maximizes energy efficiency while improving lighting quality.

Portable Office Luminaire

The Portable Office Luminaire provides office workers with a unique combination of flexibility, energy efficiency, and control. The floor lamp, with its state-of-the-art high-output compact fluorescent lamp (CFL), integrated occupancy sensor, and low-glare direct/indirect design, is specifically designed to be used as the primary light source in an office.

Portable Office Luminaire prototype developed under this PIER LRP project

Researchers from Finelite and the California Lighting Technology Center (CLTC) developed a prototype portable luminaire designed to be the primary source of illumination in office environments.

Flexible, Energy Efficient Office Lighting

Portable office lighting systems offer more flexibility and control than do standard ceiling systems while also providing better quality, glare-free direct/indirect lighting.

These systems use the same energy efficient lighting components as ceiling mounted systems. They can be placed strategically in offices to provide high or low levels of illumination where needed and easily adapt to changing office layouts or tasks.

In a 150-square-foot (ft^2)private office, a state-of-the-art super T8 system uses 0.83 watts/ft^2 while the Portable Office Luminaire requires only 0.53 watts/ft^2.

Dual lamps and a perforated fixture provide glare-free direct and indirect light.

Benefits

- Cuts energy use 30–50 percent compared to ceiling-mounted systems.
- The 80W CFL with electronic ballast provides high light output and increased energy efficiency.
- A low-glare direct/indirect design delivers superior light quality.
- An integrated occupancy sensor reduces energy use during unoccupied times.

INTERESTED?

Office building owners/managers, small home/office users, lighting designers and specifiers, lighting equipment manufacturers, code developers, contractors, and utility staff can use the information on the prototype portable office luminaire.

Key next steps include:

- *Utility staff*—Work with CLTC to identify and support field demonstrations.
- *Luminaire manufacturers*— Consider manufacturing the portable office luminaire.
- *Code Developers*—Bear in mind the impact of task-ambient lighting systems when considering code changes.
- *Lighting Designers*—Adopt task-ambient lighting designs using the Portable Office Luminaire.

To participate in field demonstrations or to get more information on this technology, contact Erik Page at CLTC (epage@ucdavis.edu).

This project was part of the PIER Lighting Research Program. To view the project results, as well as other current research activities, visit www.energy.ca.gov/pier.

Additional information about this technology can be found on the following websites:

- PIER contractor site: www.archenergy.com/lrp/products/portable.htm
- PIER researcher site: www.cltc.ucdavis.edu (under projects)

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Integrated Engineered Solutions

University of California, Davis
CLTC
CALIFORNIA LIGHTING TECHNOLOGY CENTER

Rev 7/7/06 **Pub# CEC-500-2005-153-FS**

PORTABLE OFFICE LUMINAIRE

PROVIDING LIGHT WHEN AND WHERE USERS NEED IT

STATE OF CALIFORNIA
ENERGY COMMISSION

Public Interest
Energy Research